



NEW TANKS RULES

February 2019

dnr.mo.gov/env/hwp/ustchanges.htm

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Walkthrough Inspections

Underground storage tank (UST) regulations require walkthrough inspections and testing of spill buckets, overfill prevention equipment, release detection equipment and required containment sumps. These periodic walkthrough inspections are to make sure your underground storage tank equipment is working properly and to catch problems early. You may perform walkthrough inspections yourself or have a third party conduct them. First walkthrough inspection must be completed in 2019.

Walkthrough Inspections Must Cover

Every 30 Days

SPILL PREVENTION EQUIPMENT

- ✓ Visually check for damage
- ✓ Remove liquid or debris
- ✓ Check for and remove obstructions in the fill pipe
- ✓ Check the fill cap to make sure it is securely on the fill pipe
- ✓ For double-walled spill prevention equipment with interstitial monitoring, check for a leak in the interstitial area
- ✓ For tanks that receive deliveries less frequently than every 30 days, the spill prevention equipment inspection may be conducted before each delivery

RELEASE DETECTION EQUIPMENT

- ✓ Check to make sure the release detection equipment is operating with no alarms or other unusual operating conditions present
- ✓ Ensure release detection records are reviewed and current
- ✓ Owners and operators who monitor their release detection systems remotely may check the release detection equipment and records remotely, as long as the release detection systems at the locations are determined to be in communication with remote monitoring equipment

Annually

Required containment sumps (such as tank top, at the submersible turbine pump, under dispenser, and transition/intermediate sumps. Generally this covers sumps installed after July 1, 2017.)

- ✓ Visually check for damage, leaks to the containment area and releases to the environment
- ✓ Remove liquid from containment sumps
- ✓ Remove debris

For double-walled sumps with interstitial monitoring, check for leaks in the interstitial area. For hand-held release detection equipment, check devices such as tank gauge sticks or groundwater bailers for operability and serviceability.

Conduct walkthrough inspections according to a standard code of practice developed by a nationally-recognized association or independent testing laboratory or according to requirements developed by your implementing agency, if the code of practice checks equipment in a manner comparable to the requirements above.



Records must be kept by the owner/operator of the walkthrough inspections for one year.

Monitor or Test Spill Basins	Frequency
Interstitally Monitor	Monthly
Tightness Test	Every three years
First test performed at installation	
Monitor or Test Containment Sumps	Frequency
Interstitally Monitor	Annually
Tightness Test	Every three years
First test performed at installation	

Equipment Check	Testing or Monitoring	Record Retention
Overfill Prevention		
	Equipment Test/Inspection	
Spill Prevention		
	Hydrostatic Test or Tightness Test	Three years
	Interstitial Monitoring	Twelve months
Containment Sump		
	Hydrostatic Test or Tightness Test	Until next test (three years)
Release Detection		
	Operability Check	One year or next test

If overfill device fails, it must be replaced.

Monthly Walkthrough Inspection Log Year: _____

Facility ID: ST _____

Facility Name: _____

Facility Address: _____

This log verifies that I have checked the spill bucket area and my release detection equipment.

Date	Staff Name/Initial	Release Detection	Spill Basin	Spill Bucket Gauge (double walled only)	Action, if any

For the release detection equipment, I:

- ✓ Checked for alarms or unusual operating conditions
- ✓ Verified that there is a valid passing test within the last 30 days

For the spill basin area, I:

- ✓ Checked the spill basin for damage
- ✓ Removed any liquids or debris from the spill basin
- ✓ Checked the fill pipe for obstructions
- ✓ Checked the fill cap – it fits tightly and is in good shape

For double-walled spill buckets, I checked the interstitial space, sensor or gauge (if documented each month, you may opt out of the three-year spill bucket test).

Example of walkthrough inspection form may be found at the following website

dnr.mo.gov/env/hwp/docs/MonthlyWalkthroughInspectionLog.pdf



Spill Bucket Testing

Spill buckets must be tested at installation and then every three years (single-walled spill bucket) **or** have monthly interstitial monitoring (double-walled spill bucket).

Hydrostatic Test

The traditional hydrostatic (water) integrity test of a single-walled spill bucket or basin follows the same general procedures as a containment sump test (see right), except that the spill bucket is filled to within 1.5 inches of the top. For a double-walled spill bucket, follow the manufacturer's instructions, which typically include a vacuum or pressure test to confirm the integrity of both walls.

Interstitial Monitoring



You may want to consider a double-walled spill bucket. Not only does a double-walled spill bucket allow for interstitial monitoring, which means routine, three-year hydrostatic tests of the spill bucket are not required, it is typically easier to repair.

Field repairs (caulk, epoxy, paint) of spill buckets are not allowed. Most double-walled spill buckets have replacement options that do not require concrete work.



Spill basins must be checked during the monthly walkthrough inspections. This is also a good time to evaluate the interstice (space between the walls of a double-walled bucket). If this monthly interstitial check is documented, a three-year spill bucket test is not required.

Unique Spill Containment Systems

All spill buckets must be tested, including unique configurations, like those below.



If a tank top containment sump *is* the spill bucket, the entire sump must be tested or a spill bucket may be installed on the riser, if appropriate. Please note, these unique spill dikes or other alternative containment may need site-specific test procedures, which must be approved by the department.

Overfill Prevention Equipment

Overfill prevention devices, like automatic shutoff valves (flappers) or overfill alarms, are designed to prevent releases of product during delivery into the tank due to overfills. Prior to a delivery, owner/operators and drivers should always verify the amount of space available in the tank. Deliveries must be made with a lock-on connection unless an alternative

is pre-approved by the department.

Ball float valves may not be used when overfill prevention is replaced. If the ball float valve must be replaced, owners and operators must use either an automatic shutoff device or overfill alarm.

To test or inspect the overfill device, most equipment must be removed from the tank. Check for damage, ensure all parts are moving freely and functioning properly, and verify that the shutoff is at the appropriate level in the tank.

Three overfill devices are now approved to be tested in-place without removal from the tank: Franklin Fueling's Defender Series Overfill Prevention Valve, Emco Wheaton's A1100 T Testable Overfill Prevention Valve and OPW's 7150-T Testable Overfill Prevention Valve. The tester must follow the test method, including verification that the device is installed at the correct height.

Document those measurements and provide them to the department to make self-testing easier in the future.



Containment Sump Testing

Starting July 1, 2017, containment sumps are required when:

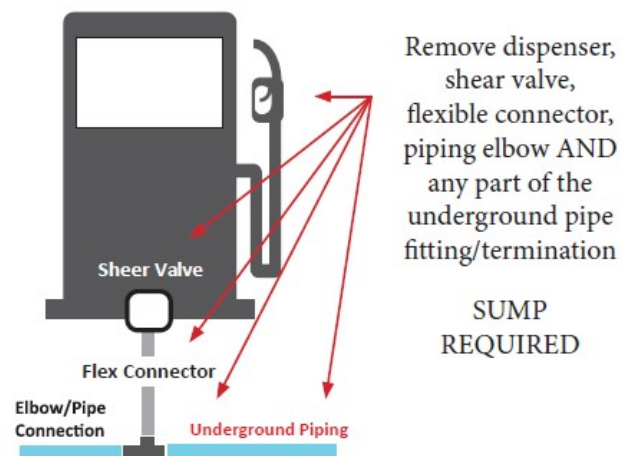
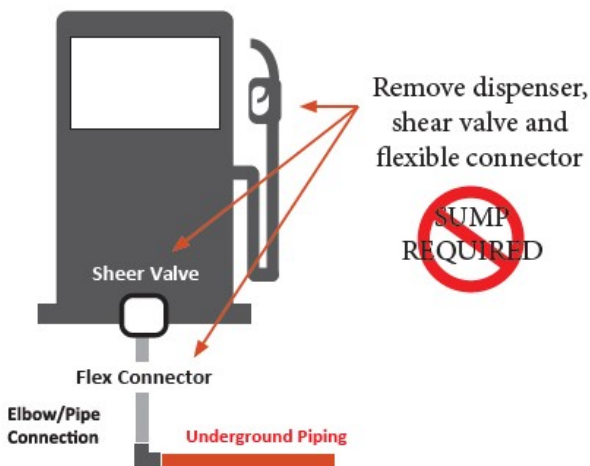
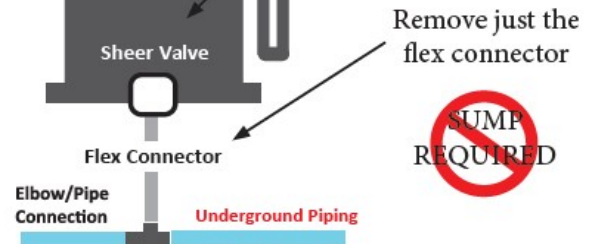
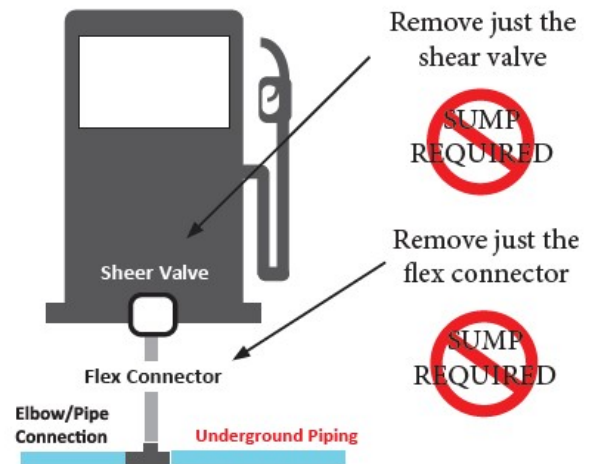
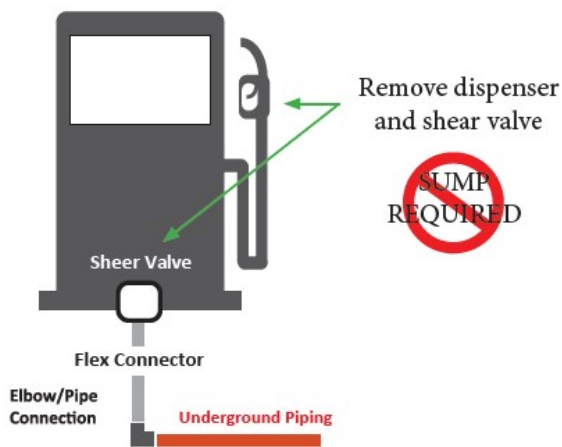
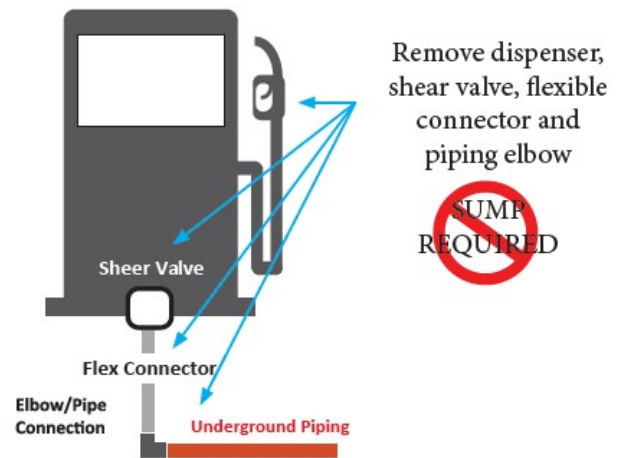
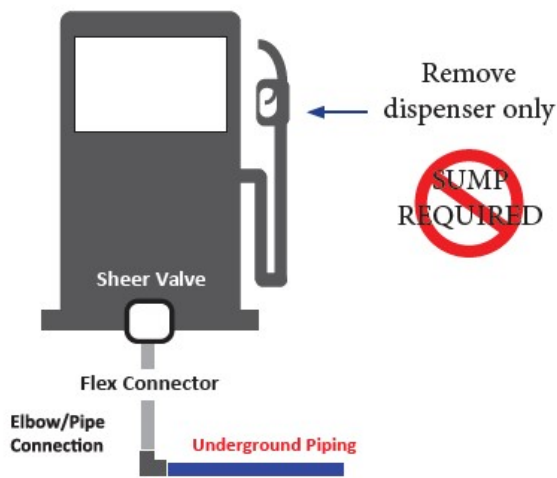
- ⇒ A new tank is installed (or replaced)
- ⇒ A new piping system is installed or when more than 50 percent of the piping on a single tank system is replaced
- ⇒ A dispenser and the sub-dispenser equipment is replaced



Dispenser Replacement Guidance

Since July 1, 2017, if a dispenser is replaced, a containment sump may be required. The Department of Natural Resources has created a guidance document titled: *My Dispenser is Being Replaced, Is a Containment Sump Required?* provides a more detailed explanation if a containment sump may be required. The guidance document may be found at the following website: dnr.mo.gov/env/hwp/docs/ReplacingYourDispenser.pdf

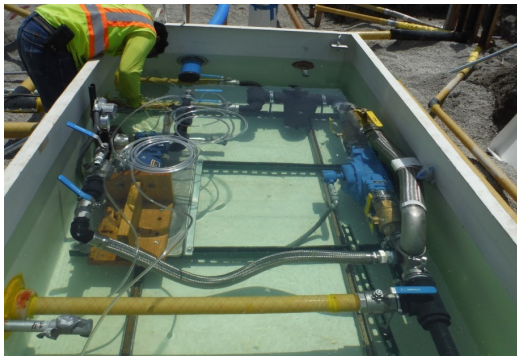
Dispenser Replacement Guidance



The containment sump must be properly installed, according to the manufacturer's instructions. It must be leak-tight on the bottom and sides. After installation, you must:

- ✓ Test the newly installed sump in accordance with Petroleum Equipment Institute RP 1200 "Recommended Practice for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities" or other department approved method
- ✓ Test the containment sump every three years
- ✓ Maintain and repair the containment sump so that it continues to be leak-tight and free of liquids and debris
- ✓ Conduct an annual walkthrough inspection of the required sump
- ✓ Retain testing and walkthrough inspection documentation

Spill buckets and containment sumps may be tested using a National Work Group on Leak Detection Evaluation certified method (nwglde.org) OR the Petroleum Equipment Institute's Recommended Practice (PEI RP) 1200-2012, "Recommended Practices for the Testing and Verification of Spill, Overfill, Leak Detection and Secondary Containment Equipment at UST Facilities."



Outlined here are just few steps (please note, this is not a complete edition of the recommended practice and may not be used as the protocol):

- ✓ Check for liquid and debris in the spill bucket
- ✓ Close boots and remove sensors
- ✓ Fill sump or spill basin
- ✓ Test for one hour
- ✓ If the water level change is less than one-eighth inch, the equipment PASSES

Low-level sump testing is allowed in Missouri, so long as it follows the Missouri Low-Level Testing Method standards (dnr.mo.gov/env/hwp/ustchanges.htm). Low-level testing is when the containment sump sensors shutdown the submersible turbine pump (STP) so that once a sensor alarms, no further product may be leak into the sump. With this system in place, testing the full sump is not necessary, just the portion of the sump up to the sensor alarm level. For more details on this method, see the recommended practice listed above. Low-level testing may not be used for integrity verification at installation or repair.



If the sump is clean, testing water may be handled in accordance with the department's guidance "Removing Water from Gas Station Containment Sumps" (dnr.mo.gov/pubs/pub2640.htm). If the sump is not clean, water and product mixtures may have additional storage, disposal, and handling requirements.

Tubing to connect the interstitial spaces of piping while bypassing the fittings, connectors and valves may not be used, as the single-walled fittings, connectors and valves must also have monitored containment sumps. Containment sumps should have a sensor in each containment sump. If only one sensor is used at the lowest point of the entire piping secondary containment (i.e., one sensor in the tank top sump with all piping secondary containment open and communicating), then the entire piping secondary and all containment sumps must be tested together as the entire secondary serves as one single containment sump. This configuration is not recommended.



Release Detection Equipment Testing

While testing your line leak detector is nothing new in Missouri, EPA's new rule requires tank monitoring equipment to be checked at installation and annually thereafter.

Tests must be conducted in accordance with the regulations *and* the manufacturer's procedures by a trained or certified technician. Please note, any test equipment or procedures must be specifically approved for use by the leak detection equipment manufacturer.

Technicians should check for manifolded piping, multiple submersible turbine pumps (STPs), valves and any other equipment that might affect whether the entire piping system is being adequately monitored by the leak detection equipment.

If a site has line leak detectors (LLDs) from more than one manufacturer, the tester must be certified for each detector to test it. Leak detector tests must simulate a leak to test the LLD as it is installed in the system. The test equipment should be at the highest or furthest dispenser or piping termination.

New UST systems (tank and piping) must use interstitial monitoring as the primary, precision monitoring method. As such, the sensors must be checked to ensure they are functioning properly and installed at the lowest point in the system. Follow the manufacturer's testing procedures; for example, the sensor may be removed and submerged in water to ensure it alarms.



All operability tests should include a check of the complete tank and piping system to ensure that nothing impedes the equipment from detecting leaks from any portion of the tank or piping system. Reports must document test method, technician, date and test data.

Installation Documentation

The department certifies installations upon completion to satisfy the state and federal requirements. Installation inspections are designed to observe many of the new requirements as possible, thereby minimizing the amount of documentation needed. For example, if an inspector is present for the sump or sensor test, the paperwork might not be required. The inspector would have already observed the test and documented the passing test in their records. Many of these items may be part of the inspection, but here is a list of the items needed to certify a typical installation:

- ✓ Submit the completed New Installation Notification at least 14 days before your tank installation. New install notices are valid for 180 days, you may submit them well in advance of your projected tank installation date.
- ✓ Financial Responsibility on file with Missouri Department of Agriculture
- ✓ Manufacturers' Training/Technician certificates
- ✓ Tank Manufacturer's Installation Checklist
 - Damage or Repair Documentation or Certification
- ✓ Piping Manufacturer's Installation Checklist
- ✓ Automatic Tank Gauge/ Electronic Console setup report (including sensors)
- ✓ Sensor Operability Tests (performed in accordance with manufacturer's procedures)
 - All sensors, labeled/identifiable locations, functioning (sensor status), tested
- ✓ Line Leak Detector Operability Tests
- ✓ Post-Installation Precision Tank Tightness Test
- ✓ Post-Installation Precision Line Tightness Test
- ✓ Overfill Prevention Device Operability Test (confirmation of height the automatic shutoff was installed and that automatic shutoff occurs at 95% or less)
- ✓ Sump Integrity Installation Test (hydrostatic, pressure/vacuum interstitial test)
- ✓ Spill Bucket Integrity Installation Test (hydrostatic, pressure/vacuum interstitial test)
- ✓ Other special site or equipment requested testing or documentation

Have You Submitted All Of Your Documentation?

Have you obtained facility proof of financial responsibility (e.g. Petroleum Storage Tank Insurance Fund policy)?

For more information, visit our webpage: <https://dnr.mo.gov/env/hwp/tanks/ustfinresp.htm>

Has a completed registration form been submitted?

To download the form, visit our webpage: <https://dnr.mo.gov/forms/780-1782-f.pdf>.

UST Operator Training

The Missouri operator training regulations require qualified Class A/B and C Operators for all in-use facilities. Class A/B operators must be trained within 30 days of assuming the operator responsibilities. Class C operators must be trained before assuming the Class C operator duties. For more information on the UST Operator Training go to:

<https://dnr.mo.gov/env/hwp/ustchanges.htm>

Online UST operator training is provided at no charge by the Missouri Petroleum Storage Tank Insurance Fund (PSTIF). A test-only option is also available. Visit their webpage at: <http://optraining.pstif.org/intro>

Stay Informed

The department offers a free e-mail service that will provide information on the new UST rules, current issues relevant to the UST regulations, announcements of training events and more. If you would like to receive e-mail updates on these regulation changes, go to https://public.govdelivery.com/accounts/MODNR/subscriber/new?topic_id=MODNR_128

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